



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,919	09/12/2003	William J. Taylor	P0008059.00/LG10126	8345
27581	7590	10/15/2010		
MEDTRONIC, INC. 710 MEDTRONIC PARKWAY NE MINNEAPOLIS, MN 55432-9924			EXAMINER STOKLOSA, JOSEPH A	
			ART UNIT	PAPER NUMBER
			3762	
			NOTIFICATION DATE	DELIVERY MODE
			10/15/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

rs.docketingus@medtronic.com  
sso@cardinal-ip.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/661,919	<b>Applicant(s)</b> TAYLOR ET AL.	
	<b>Examiner</b> JOSEPH STOKLOSA	<b>Art Unit</b> 3762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-14, 16, 18-24, 26-36, 38, 40-48, 50-57, 59, 61-65 and 68-73 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-14, 16, 18-24, 26-36, 38, 40-48, 50-57, 59, 61-65 and 68-73 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/16/2010 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4, 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 4 recites the limitation "said first connector" in line1. There is insufficient antecedent basis for this limitation in the claim.

5. Claim 16 recites the limitation "said second connector" in line 1. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3762

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1, 2, 5, 7-14, 16, 18-21 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seifried et al. (US 5,531,003) in view of Lessar et al. (US 5,902,326) and Stevenson (US 6,008,980).

9. Seifried discloses a feedthrough assembly comprising a ferrule (10) having an inner surface and an outer surface, a terminal (electrical pin lead 12) extending through said ferrule, a conductive noble metal coating of gold, platinum, or palladium (Col. 3, lines 1-49), an insulating body formed through an insulating seal (Col. 2, line 15-20). Seifried discloses that the feedthrough assembly is to be used with an implantable pulse generator, which includes an encasement or container having electrical components disposed within the container (Col. 2, lines 1-35). Seifried discloses the ferrule to run into the container of the IPG to make electrical connection to the components disposed within (Col. 2, lines 24-34).

Art Unit: 3762

10. Seifried fails to disclose a first conductive coating of a refractory metal and the second coating covering a portion of the ferrule outer surface.

11. Lessar teaches that it is known to apply an adhesion layer of a refractory metal prior to a noble metal coating/braze as set forth in Col. 6, line 40-48 for providing the predictable results of facilitating adhesion of a noble metal coating.

12. Stevenson teaches that it is known to apply a noble metal coating over a portion of the outer ferrule surface as well as the terminal pin for providing the predictable results of reducing oxidation on the ferrule surface and sealing the ferrule from fluid entering the interior space.

13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as taught by Seifried with applying a first coating of a refractory metal, since such a modification would provide the predictable results of facilitating adhesion of a noble metal coating and applying the noble metal coating over a portion over the outer surface of the ferrule since such a modification would provide the predictable results of reducing oxidation on the ferrule surface and sealing the ferrule from fluid entering the interior space.

14. With respect to claims 2, Seifried et al. discloses that the conductive metal coating (30) also covers an area of said terminal adjacent to said body of insulation material (see Fig. 1).

Art Unit: 3762

15. With respect to claims 5, Seifried et al. discloses that the conductive metal coating entirely covers said terminal (see Fig. 1).

16. With respect to claims 9-11, Seifried et al. discloses that the conductive metal coating is a noble metal or a noble metal alloy (see col. 3, lines 35-40). Seifried et al. discloses that the conductive metal coating may be gold, platinum, palladium, and titanium (see col. 3, lines 35-40).

17. With respect to claims 7-8, Seifried et al. discloses a feedthrough assembly comprising a conductive metal coating covering the terminal said coating being more resistant to oxidation than said terminal (a metallic film or coating 30 is placed on the pin to minimize and control the growth of the oxide thereon; see col. 3, lines 1-25). Seifried discloses that the conductive metal coating may be gold, platinum, palladium, and titanium (see col. 3, lines 35-40), but fails to specifically disclose that the conductive metal coating may be rhodium or ruthenium. It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to substitute either rhodium or ruthenium as the conductive metal coating since such a modification would provide the predictable results of minimizing and controlling the growth of oxidation on the terminal would be within the level of ordinary skill in the art.

18. With respect to claims 12-13, Seifried et al. discloses that the thickness of the coating is not critical so long as it is substantially continuous in its coverage. It may range from 500Å to about 10,000Å (see col. 3, lines 20-25).

Art Unit: 3762

19. With respect to claims 14, Seifried et al. discloses that the terminal (pin 12) is a refractory metal or a refractory metal alloy (tantalum or niobium).

20. With respect to claims 19, Lessar et al. discloses the first coating being titanium, but fails to explicitly teach the first coating may be niobium. It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to substitute niobium as the conductive coating because the selection of any conductive refractory metal would be within the level of ordinary skill in the art for providing the predictable results of establishing a reliable electrical connection to serve as an adhesion layer for the second noble metal coating, and since niobium is a refractory metal, there is a reasonable expectation of success that niobium would perform similarly to titanium.

21. With respect to claims 20-21, Lessar et al. fails to disclose the specific thickness of the conductive coating attached to the ferrule. However, Seifried et al. discloses that a satisfactory thickness of a conductive coating that is resistant to oxidation may range from 500A to about 10,000A (see col. 3, lines 20-25).

22. Claims 22, 26-36, 38, 40-45, 48, 50- 57, and 59, 61-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seifried in view of Lessar and Stevenson as applied above, and in view of Dahlberg et al. (US 5,245,999).

23. .Seifried in view of Lessar and Stevenson fail to specifically disclose a second connector for electrically coupling and mechanically engaging the ferrule outer surface

Art Unit: 3762

with a second electrical contact coupled to the electrical device. It is well known in the art to utilize a second connector for electrically coupling and mechanically engaging the ferrule outer surface with the pacemaker circuitry in order to enable the pacemaker to operate in an unipolar mode (that is, the housing, which is attached to the ferrule, of the pacemaker is utilized as the ground electrode in electrical stimulation of the heart).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as taught by Seifried in view of Lessar with a second connector for electrically coupling and mechanically engaging the ferrule outer surface with a second electrical contact coupled to the electrical device, since such a modification would provide the system with the predictable results of enabling the pacemaker to operate in an unipolar mode (that is, the housing, which is attached to the ferrule, of the pacemaker is utilized as the ground electrode in electrical stimulation of the heart).

24. Dahlberg et al. teaches a feedthrough apparatus for a pacemaker that permits unipolar operation of the pacemaker. The feedthrough (1) includes a case 3 (i.e., a ferrule) which extends through the pacemaker housing (2), wherein the case encloses an insulating compound (4) through which a conductor or terminal pin (5) runs (see, for example, col. 4, lines 20-32). In order to enable a unipolar connection, connecting means 9 electrically and mechanically connects the outer surface of case 3 to an indifferent pole 10 of the stimulating pulse generating circuitry 26 of the pacemaker (see, for example, col. 4, lines 33-66). It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to modify the feedthrough



Art Unit: 3762

assembly of Seifried et al in view of Lessar et al. such that a second connector electrically and mechanically connects the ferrule outer surface to the circuitry of the pacemaker as taught by Dahlberg et al. since such a modification would provide the predictable results of enabling the pacemaker to function in a unipolar stimulation mode, thereby requiring only one stimulation electrode for pacing the heart.

25. With respect to claims 4, 16, 38, 59, and 65, Dahlberg et al. fails to disclose that the connector is a spring contact. As admitted by Applicant at page 9, spring devices are well known in the art for ensuring an electrical connection between two structures. It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to utilize a spring device as the connector because the selection of any connector in would be within the level of ordinary skill in the art for providing the predictable results of ensuring an electrical connection between the two structures

26. With regard to claims 26-30, Seifried et al. discloses a feedthrough assembly comprising a conductive metal coating covering the terminal said coating being more resistant to oxidation than said terminal (a metallic film or coating 30 is placed on the pin to minimize and control the growth of the oxide thereon; see col. 3, lines 1-25). Seifried discloses that the conductive metal coating may be gold, platinum, palladium, and titanium (see col. 3, lines 35-40), but fails to specifically disclose that the conductive metal coating may be rhodium or ruthenium. It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to substitute either rhodium or ruthenium as the conductive metal coating since such a modification would provide the

Art Unit: 3762

predictable results of minimizing and controlling the growth of oxidation on the terminal would be within the level of ordinary skill in the art.

27. With respect to claims 33 and 34, Seifried et al. discloses that the protective metal coating may be applied over the entire pin or it may be applied to only specific portions of the pin (see col. 3, lines 15-20). Seifried et al. fails to specifically disclose that forming the conductive coating includes mechanically or chemically masking areas that are not to be coated with the conductive material (i.e., areas adjacent to the pin or areas on the pin). Masking is a well-known methodology for applying selective coatings (see Stevenson et al. which teaches mechanically or chemically masking areas that are not to be coated with the uses paper mask 44 to shield areas on the feedthrough apparatus which are not to be coated). It would have been obvious to one having ordinary skill in the art at the time of applicant's conductive material for providing the predictable results of effectively applying the conductive coating only on the desired area (i.e., avoid coating areas adjacent to the pin or areas on the pin that are not desired to be coated).

28. With respect to claims 41, Lessar et al. discloses the first coating being titanium, but fails to explicitly teach the first coating may be niobium. It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to substitute niobium as the conductive coating because the selection of any conductive refractory metal would be within the level of ordinary skill in the art for providing the predictable

Art Unit: 3762

results of establishing a reliable electrical connection to serve as an adhesion layer for the second noble metal coating, and since niobium is a refractory metal, there is a reasonable expectation of success that niobium would perform similarly to titanium.

29. With respect to claims 42-43, Lessar et al. fails to disclose the specific thickness of the conductive coating attached to the ferrule. However, Seifried et al. discloses that a satisfactory thickness of a conductive coating that is resistant to oxidation may range from 500A to about 10,000A (see col. 3, lines 20-25).

30. Claims 3, 23, 46, 68, 70, and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seifried in view of Lessar and Stevenson and Dahlberg as applied above, and further in view of Pless et al. (US 5,131,388).

31. Seifried in view of Stevenson and Lessar and Dahlberg disclose the invention as claimed as applied above, but fail to teach the connection of the feedthrough pin by a mechanical means such as by crimping. Pless teaches that it is known in the medical implant art to crimp the internal electronics of an implantable medical device to provide connection to the feedthrough apparatus as set forth in Col. 4, line 36, for providing an alternative to welding, which is known to be a less complicated connection means as well as less expensive. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as taught by Seifried in view of Stevenson and Lessar and Dahlberg, with crimping to provide a connection to the feedthrough apparatus of the internal hybrid electronics since such a modification would

Art Unit: 3762

provide the predictable results of a system with a less expensive and complicated manner of production.

32. Claims 4, 16, 24, 47, 65, 68, 69, 71, and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seifried in view of Lessar and Stevenson and Dahlberg as applied above, and further in view of Langer (4,254,775).

33. Seifried in view of Lessar and Stevenson and Dahlberg disclose the invention as claimed as applied above, but fail to teach the connection of the feedthrough pin by a mechanical means such as by using a spring element.

34. Langer teaches that it is known in the medical implant art that a leaf spring may be used to provide connection of internal hybrid electronics, by forcing hybrid electronics to contact through some spring force, to the feedthrough apparatus pin as set forth in Col. 5, line 44-59, for providing the predictable result of ensuring contact between the internal electronics and the pins. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as taught by Seifried in view of Lessar and Stevenson and Dahlberg, with providing connection of the feedthrough pin by a mechanical means such as by using a spring element, since such a modification would provide the system with the predictable result of ensuring contact between the internal electronics and the pins. It is also of note that the claims may be interpreted as reading on any spring connection of the feedthrough apparatus, and not necessarily a spring connection between the internal hybrid

Art Unit: 3762

electronics and the feedthrough assembly as the claim states that only a connection between the feedthrough assembly and the implantable medical device is created.

35. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as taught by Seifried in view of Lessar and Stevenson and Dahlberg and further in view of Langer, with placing the spring contact in direct connection with the ferrule since such a modification would provide the predictable results of providing direct contact to the feedthrough pin, which would require a spring with a smaller spring constant which would inherently reduce the size of the spring, thereby reducing the overall size of the implant. Moreover, it has been held that rearranging of parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

### ***Response to Arguments***

36. Applicant's arguments with respect to claims 1-5, 7-14, 16, 18-24, 26-36, 38, 40-48, 50-57, 59, 61-65, and 68-73 have been considered but are moot in view of the new ground(s) of rejection necessitated by amendment.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH STOKLOSA whose telephone number is (571)272-1213. The examiner can normally be reached on Monday-Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Niketa Patel can be reached on 571-272-4156. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3762

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Niketa I. Patel/  
Supervisory Patent Examiner, Art Unit 3762

Joseph Stoklosa  
Examiner  
Art Unit 3762

/Joseph Stoklosa/  
Examiner, Art Unit 3762  
9/29/2010